No. 9700286

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Agricultural Research Service U.S. Department of Agriculture

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR [E]XPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE [A]BOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT [P]ROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COWPEA

'Charleston Greenpack'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this ninth day of February, in the year of our Lord two thousand one.

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

9700286

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*

Agricultural Research Service
U. S. Department of Agriculture

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

(US-858)

3. VARIETY NAME

Charleston Greenpack

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*

1400 Independence Ave. S. W.
Washington, DC 20250-0302 U. S. A.

5. TELEPHONE *(include area code)*

(301) 504-6532

6. FAX *(include area code)*

(301) 504-5060

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PVPO NUMBER 9700286

FILING DATE: 4/16/97

7. GENUS AND SPECIES NAME

Vigna unguiculata

8. FAMILY NAME *(Botanical)*

Leguminosae

9. CROP KIND NAME *(Common name)*

Cowpea

FEES RECEIVED

FILING AND EXAMINATION FEE: VOUCHER
$
DATE 4/16/97

CERTIFICATION FEE:
$ 320.00
DATE 10/25/00

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*

U. S. Government

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

N/A

12. DATE OF INCORPORATION

N/A

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

Willard J. Phelps
10300 Baltimore Blvd., Bldg. 005
Beltsville, MD 20705-2350

14. TELEPHONE *(include area code)*

(301) 504-6532

15. FAX *(include area code)*

(301) 504-5060

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of the Variety
d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Applicant's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*

☐ YES *(If "yes," answer items 18 and 19 below)* ☒ NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☐ YES ☐ NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

☐ YES *(If "yes," give names of countries and dates)* ☒ NO

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*	SIGNATURE OF APPLICANT *(Owner(s))*
Richard L. Fery	Roger H Lawson
NAME *(Please print or type)*	NAME *(Please print or type)*
Richard L. Fery	Roger H. Lawson
CAPACITY OR TITLE: Research Geneticist	DATE: 4/2/97
CAPACITY OR TITLE: National Program Leader Horticulture & Sugar Crops	DATE: 4/15/97

STD-470 (03-96) *(Previous editions are to be destroyed)* *(See reverse for instructions and information collection burden statement)*

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed Exhibits A, B, C, E; (3) at least 2,500 viable untreated seeds, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,450 ($300 filing fee and $2,150 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Blvd., Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $300 for issuance of the Certificate.

Plant Variety Protection Office
Telephone: (301) 504-5518

ITEM

16a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;

(2) the details of subsequent stages of selection and multiplication;

(3) evidence of uniformity and stability; and

(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified.

16b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;

(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences;

(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

16c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

16d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

16e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

17. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant may **NOT** reverse this affirmative decision after the variety has been sold and so labelled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

20. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Exhibit A: Origin and Breeding History of the Variety

'Charleston Greenpack' was developed over a seven-year period using a backcross-pedigree procedure that included two hybridizations and repeated single-plant selections (Attachment 1 to Exhibit A). The initial cross involved 'Bettergreen', a cream-type cultivar with green-colored cotyledons, and 'Kiawah', a pinkeye-type cultivar with cream-colored cotyledons (Attachments 2 and 3 to Exhibit A). The green cotyledon trait is conditioned by a single recessive gene, symbolized *gc* (Attachment 4 to Exhibit A). The second cross was a backcross of the F_1 of the initial cross to the 'Kiawah' parent. Following the last hybridization, intense selection pressure was applied in the F_2 through the F_8 generations for the green cotyledon phenotype and the following horticultural characteristics: plant habit (erect), earliness (days to harvest), pod placement (above foliage), pod shape (~~slightly~~ curved), color of ~~mature pod~~ GREEN SHELL MATURITY POD (dark purple), pod fill (minimal seed abortion), concentration of pod set (a single harvest must remove most of the pod load), seed shape (kidney), seed coat pattern (small eye), eye color (pink), texture of dry testa (smooth), seed size, seed germination, hardness of seed coat (dry seed must imbibe water readily), pod yield, and seed yield, 'Charleston Greenpack' originated as a bulk of an F_8 population grown in 1994.

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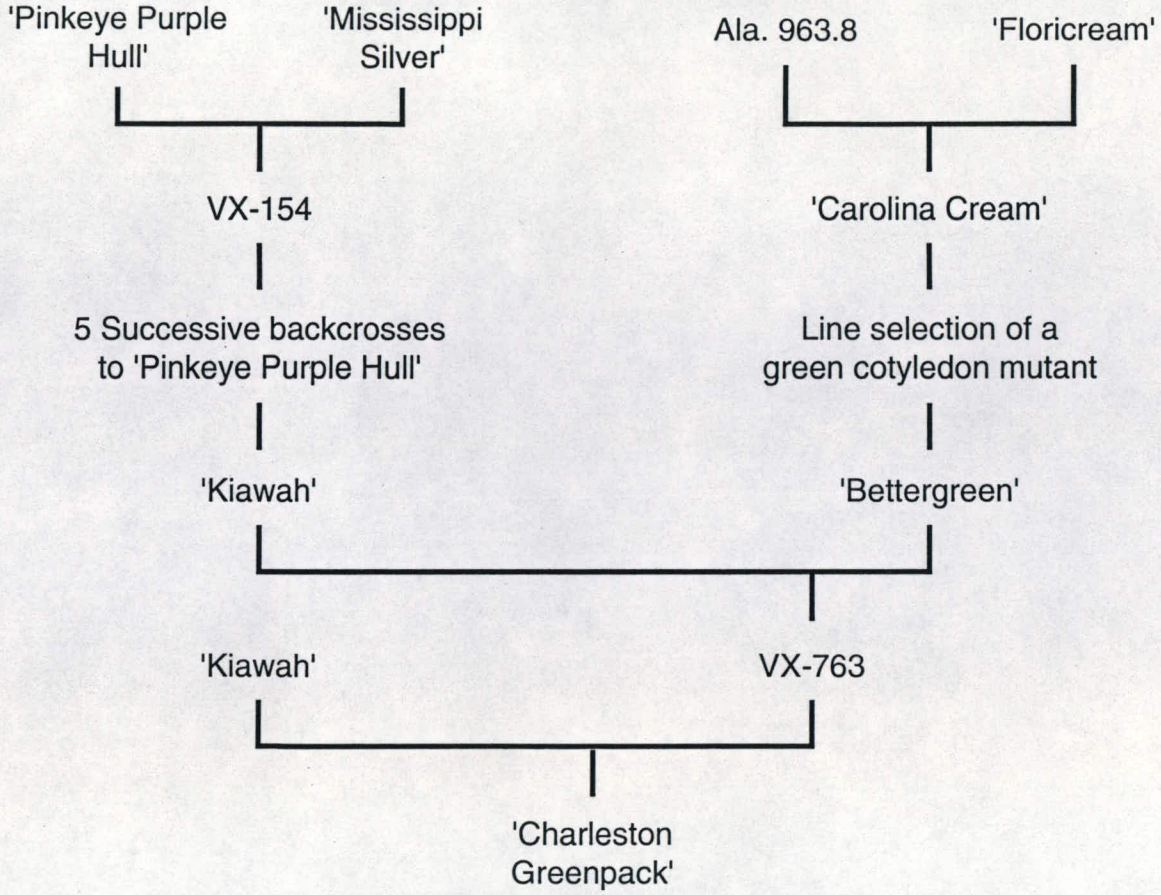
'Charleston Greenpack' appeared stable and uniform through three generations of selfing during the seed increase process. Blackeye off-types appeared approximately 1:10,000.

Attachment 1.	Pedigree of 'Charleston Greenpack'.
Attachment 2.	Fery, R. L., P. D. Dukes, and F. P. Maguire. 1993. 'Bettergreen' southernpea. HortScience 28(8):856.
Attachment 3.	Fery, R. L., and P. D. Dukes. 1988. 'Kiawah' southernpea. HortScience 23(3):645-746,
Attachment 4.	Fery, R. L., and P. D. Dukes. 1994. Genetic analysis of the green cotyledon trait in southernpea [*Vigna unguiculata* (L.) Walp.]. J. Amer. Soc. Hort. Sci. 119(5):1054-1056.



Attachment 1 to Exhibit A

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3

Exhibit B: Statement of Distinctness

'Charleston Greenpack' is most similar to 'Kiawah' and 'Pinkeye Purple Hull-BVR'. 'Charleston Greenpack' differs from 'Kiawah', 'Pinkeye Purple Hull-BVR', and all other pinkeye-type cultivars in having green-colored cotyledons. 'Charleston Greenpack' is homozygous at the *green cotyledon* locus for the recessive allele conditioning green-colored cotyledons (genotype: *gc/gc*). 'Kiawah', 'Pinkeye Purple Hull-BVR', and all other pinkeye-type cultivars are homozygous at the *green cotyledon* locus for the dominant allele conditioning cream-colored cotyledons (genotype: *Gc/Gc*). Seed coats and cotyledons of field-grown 'Charleston Greenpack' peas harvested at dry-stage maturity are light olive in color *(Munsell rating: 7.5 Y 7/4). In comparison, seed coats and cotyledons of 'Kiawah' and 'Pinkeye Purple Hull-BVR' peas harvested at similar maturity have a cream color (Munsell rating: 2.5 Y 8/4). Dry 'Charleston Greenpack' peas imbibed to restore fresh-harvest seed size and blanched in boiling water for three minutes exhibit a "fresher" color than dry seeds. Imbibed and blanched 'Charleston Greenpack' peas have a near-fresh green color (Munsell rating: 10 Y 7/4); similarly treated 'Kiawah' and 'Pinkeye Purple Hull-BVR' peas have a cream color (Munsell rating: 5 Y 8/2).

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*Munsell Color. 1990. Munsell book of color: Glossy finish collection. Munsell Color, Baltimore, Maryland.

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Exhibit C

FORM GR-470-4 (7-76)

FORM APPROVED OMB NO. 40-R3712

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
[redacted]
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY
(Cowpea)

INSTRUCTIONS: See Reverse

NAME OF APPLICANT(S)
Agricultural Research Service
U. S. Department of Agriculture

VARIETY NAME OR TEMPORARY DESIGNATION
Charleston Greenpack

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)
1400 Independence Ave. SW
Washington, DC 20250-0302

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PVPO NUMBER 9700286

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less.

1. PLANT HABIT AT GREEN SHELL STAGE: [1] 1 = ERECT 2 = SEMIERECT 3 = PROCUMBENT 4 = PROSTRATE

2. PLANT SIZE: [4][4] CM. HIGH AT MATURITY

3. STEM COLOR: [2] 1 = GREEN 2 = PURPLE

4. NODE COLOR: [2] 1 = GREEN 2 = PURPLE

5. FOLIAGE: [2] 1 = OPEN 2 = COMPACT

6. LEAF COLOR (See Reverse): [2] 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

7. LEAF SURFACE: [1] 1 = SMOOTH 2 = BLISTERED

[1] 1 = DULL 2 = GLOSSY

8. FLOWER COLOR (See Reverse) [5] 1 = PURPLE 2 = LAVENDER 3 = TINGED 4 = WHITE 5 = VIOLET 09/20/00 JMP PER LETTER

9. FIRST FLOWERING [4][1] NUMBER OF DAYS

10. POD:

[2] PLACEMENT: 1 = BELOW FOLIAGE 2 = ABOVE FOLIAGE 3 = AT FOLIAGE LEVEL

[1] LOCATION: 1 = SCATTERED 2 = BUNCHED

[1][7] CM. LONG [ ][7] MM. WIDE

[2] CURVATURE: 1 = STRAIGHT 2 = CURVED

[2] CONSTRICTIONS: 1 = NONE 2 = SLIGHT 3 = DEEP

[2] SURFACE (Green shell maturity): 1 = DULL 2 = GLOSSY

[4] COLOR (Green shell maturity): 1 = SILVER-GREEN 2 = GREEN 3 = LIGHT PURPLE 4 = DARK PURPLE

[5] COLOR (Dry maturity): 1 = WHITE 2 = STRAW 3 = DRAB 4 = PURPLE 5 = DARK PURPLE 09/20/00 JMP PER LETTER

[2] CROSS SECTION (Green shell stage-width/height): 1 = (1: <) 2 = (1: >) 3 = (1:1)

11. SEED: (DRY)

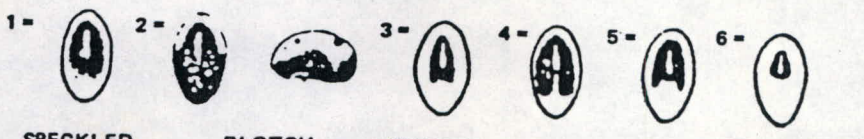
[1][4] NUMBER OF SEEDS PER POD

[1] SHAPE (See Reverse): 1 = KIDNEY 2 = OVATE TO OVOID 3 = CROWDER 4 = GLOBOSE 5 = RHOMBOID

[ ][7] MM. LONG

[ ][4] MM. WIDE

[5] HILAR EYE TYPE:



SPECKLED BLOTCH NARROW BIG SMALL VERY SMALL

[1][2][8] GM. PER 1000 SEEDS

[2] COAT: 1 = WRINKLED 2 = SMOOTH

[2] COLOR PATTERN: 1 = SINGLE COLOR 2 = PATTERNED 3 = MARBLED 4 = SPECKLED

[10] PRIMARY COLOR (Single color or basic color): 1 = PURPLE 2 = BLACK 3 = DULL BLACK 4 = BLUE 5 = RED 6 = COFFEE 7 = MAROON 8 = BUFF OR CLAY 9 = PINK 0 = WHITE 10 = green

SECONDARY COLORS PRODUCING THE PATTERN, MARBLING OR SPECKLING (Enter a zero in boxes where the colors do not identify the secondary colors.):

[0] 1 = PURPLE [0] 2 = BLACK [0] 3 = DULL BLACK [0] 4 = BLUE [0] 5 = RED

[0] 6 = COFFEE [0] 7 = MAROON [0] 8 = BUFF [X] 9 = PINK [0] 0 = WHITE

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FORM GR-470-4 (REVERSE)

12. DISEASE (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] FUSARIUM WILT	[1] ROOT KNOT NEMATODE	[0] CHARCOAL ROT	[0] ZONATE LEAF SPOT
[0] RED LEAF SPOT	[0] POWDERY MILDEW	[0] COWPEA CHLOROTIC MOTTLE VIRUS	[0] SOUTHERN BEAN MOSAIC VIRUS
[0] BEAN YELLOW MOSAIC VIRUS	[0] CUCUMBER MOSAIC VIRUS	[0] BEAN POD MOTTLE VIRUS	[0] SOYBEAN CYST NEMATODE
[0] COWPEA YELLOW MOSAIC VIRUS	[0] BACTERIAL CANKER	[0] CERCOSPORA LEAF-SPOT	[0] STING NEMATODE
[0] RUST	[0] SOUTHERN BLIGHT	[0] ROOT ROT	[2] OTHER *(Specify)* Blackeye cowpea mosaic virus

13. INSECT (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] MEXICAN BEAN BEETLE	[0] COWPEA APHID	[0] COWPEA CURCULIO	[0] STINK BUGS
[0] LESSER CORNSTALK BORER	[0] EUROPEAN CORNBORER	[0] CORN EARWORM	[0] BEET ARMYWORM
[0] THRIPS	[0] SERPENTINE LEAF MINERS	[ ] OTHER *(Specify)* _____	

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant size	Kiawah	Plant habit	Kiawah
Pod size	Kiawah	Plant pigmentation	Pinkeye Purple Hull - BVR
No. days to maturity	Pinkeye Purple Hull - BVR	Seed coloration	Nothing similar

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for completing this form:

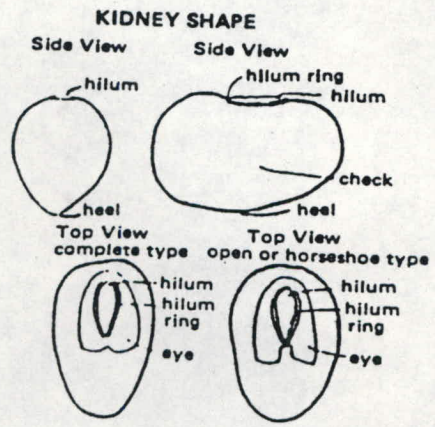
1. C. V. Piper, 1912, Agricultural Varieties of Cowpea and Related Species, U.S.D.A., Bulletin No. 229.
2. L. L. Ligon, 1958, Characteristics of Cowpea Varieties, Oklahoma State University, Bulletin B-518.
3. W. J. Spillman and W. J. Sando, 1929, Mendelian Factors in the Cowpea, papers of the Michigan Academy of Science, Arts and Letters, Vol. XI.

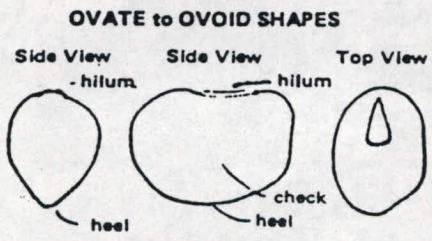
LEAF COLOR: Any recognized color chart may be used to determine the leaf color of the described variety. The following cowpea varieties may be used as a guide to identify colors listed:

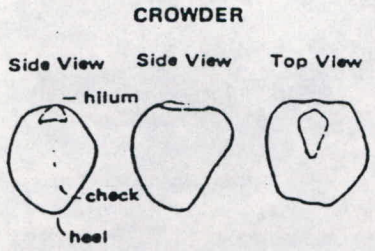
1. Light Green - Texas Cream 40
2. Medium Green - Big Boy
3. Dark Green - California Blackeye #5.

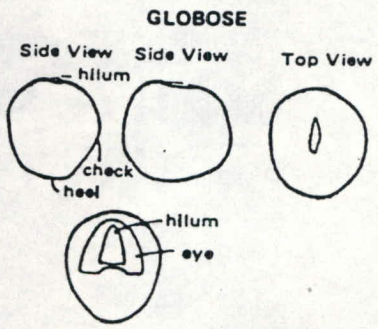
FLOWER COLOR: White flower should be treated with a one percent solution of hydrochloric acid to determine if anthocyanin is present. If color appears as a result of the test, classify as tinged.

TERMS USED TO DESCRIBE SHAPES:









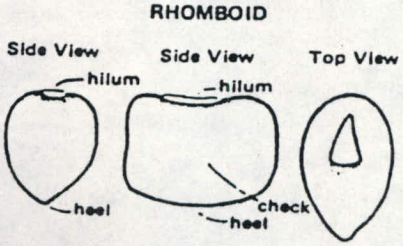


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Exhibit D: Additional Description of the Variety

'Charleston Greenpack' is a pinkeye-type cowpea, *Vigna unguiculata* (L.) Walp., developed for use as a processing cultivar by the frozen-food industry. Unlike all other pinkeye-type cultivars, 'Charleston Greenpack' can be harvested mechanically at the near-dry stage of maturity without loss of the pea's fresh green color.

Results of spring, late spring, and early summer field tests conducted at Charleston, SC, indicate that 'Charleston Greenpack' yields are comparable to 'Coronet' yields, and comparable to or better than 'Pinkeye Purple Hull-BVR' yields (Attachment 1 to Exhibit D).

'Charleston Greenpack' typically matures two to three days earlier than either 'Coronet', or 'Pinkeye Purple Hull-BVR' (Attachment 2 to Exhibit D).

The 'Charleston Greenpack' plant habit is low bushy and somewhat more compact than the plant habits of either 'Coronet' or 'Pinkeye Purple Hull-BVR', and the peduncles are shorter (Attachment 3 to Exhibit D).

'Charleston Greenpack' has extensive pigmentation (purple) on the stems, branches, and peduncles; the petioles contain moderate pigmentation at the base and tip.

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THE FLOWERS ARE LIGHTLY PIGMENTED

~~Flower color is predominately white~~; the upper, inside margin of the standard is lightly pigmented (violet), the base of the standard is yellow, and the wing is pigmented (violet) on the back surface.

Dry pods are attached to the peduncles in a pendant manner, and each peduncle typically produces two pods.

'Charleston Greenpack' pods are slightly longer than 'Coronet' pods and slightly shorter than 'Pinkeye Purple Hull-BVR' pods (Attachment 3 to Exhibit D).

Dry 'Charleston Greenpack' pods exhibit a significantly higher machine shellout of dry peas than do 'Coronet' or 'Pinkeye Purple Hull-BVR' pods (Attachment 3 to Exhibit D).

'Charleston Greenpack' pods contain more peas than do 'Coronet' or 'Pinkeye Purple Hull-BVR' pods (Attachment 3 to Exhibit D).

Pod color is green (Munsell rating: 5 GY 4/6) when immature, dark purple (Munsell rating: 10 P 2/1) when ready for mature-green harvest, and dark purple (Munsell rating: 10 P 2/1) when dry. The upper sutures and tips of immature pods are pigmented.

Fresh peas are kidney shaped and have a pink eye (Munsell rating: 2.5 R 5/6), quite similar to fresh 'Coronet' and 'Pinkeye Purple Hull-BVR' peas.

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The foliage of field-grown 'Charleston Greenpack' plants tends to have a greener color than the foliage of 'Coronet' or 'Pinkeye Purple Hull-BVR' plants.

The inside surface of "mature-green" 'Charleston Greenpack' pod hulls has a greener color than the inside surface of the pod hulls of other pinkeye-type cultivars.

'Charleston Greenpack' peas are slightly smaller than 'Coronet' or 'Pinkeye Purple Hull-BVR' peas (Attachment 4 to Exhibit D).

Unlike 'Coronet', 'Charleston Greenpack' exhibits excellent field resistance to blackeye cowpea mosaic virus. The the level of resistance is similar to the level of resistance exhibited by 'Pinkeye Purple Hull-BVR'.

Attachment 1. *Table 1.* Dry seed yields of 'Charleston Greenpack', 'Coronet', 'Kiawah', and 'Pinkeye Purple Hull-BVR' grown in spring, late spring, and summer plantings, Charleston, SC, 1966.

Attachment 2. *Table 2.* Days to harvest for 'Charleston Greenpack', 'Coronet', 'Kiawah', and 'Pinkeye Purple Hull-BVR' grown in spring, late spring, and summer plantings, Charleston, SC, 1966.

Attachment 3. *Table 3.* Plant height, plant spread, peduncle length, pod length, percent machine shellout, and number of peas per pod for Charleston Greenpack', 'Coronet', 'Kiawah', and 'Pinkeye Purple Hull-BVR' grown in a late spring planting, Charleston, SC, 1966.

Attachment 4. *Table 4.* Fresh and dry seed characteristics of 'Charleston Greenpack', 'Coronet', 'Kiawah', and 'Pinkeye Purple Hull-BVR', Charleston, SC, 1966.

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Attachment 2 to Exhibit D

Table 2. Days to harvest for 'Charleston Greenpack', 'Coronet', 'Kiawah', and 'Pinkeye Purple Hull-BVR' grown in spring, late spring, and summer plantings, Charleston, SC, 1996[z].

Cultivar	Days to harvest		
	Spring	Late spring	Early summer
Charleston Greenpack	63.1 c[y]	62.6 b	62.7 c
Coronet	65.4 b	65.4 a	68.2 a
Kiawah	67.2 a	67.0 a	68.2 a
Pinkeye Purple Hull-BVR	65.2 b	66.4 a	65.8 b

[z]Spring, late spring, and early summer tests planted on 23 May, 12 June, and 2 July, respectively. The experimental design of each test was a randomized complete block with 10 replications. Each plot was space-planted, 18 hills per plot, three seeds planted per hill, 30 cm between hills, and 102 cm between rows. Single harvest of dry pods.

[y]Mean separation within columns by Duncan's multiple range test when $P \leq 0.05$.

Table 3. Plant height, plant spread, peduncle length, pod length, percent machine shellout, and number of peas per pod for 'Charleston Greenpack', 'Coronet', 'Kiawah', and 'Pinkeye Purple Hull-BVR' grown in a late spring planting, Charleston, SC, 1996.

Cultivar	Plant height (cm)	Plant spread (cm)	Peduncle length (cm)	Pod length (cm)	Machine shellout[z] (%)	Peas/ pod (no.)
Charleston Greenpack	43.6 b[y]	68.8 b	31.3 b	17.3 b	78.9 a	14.3 a
Coronet	47.1 a	73.8 a	33.1 a	16.4 c	77.8 b	13.2 b
Kiawah	45.8 a	71.5 ab	34.4 a	17.5 b	77.6 b	13.6 b
Pinkeye Purple Hull-BVR	46.0 a	70.6 b	34.6 a	18.2 a	76.5 c	13.6 b

[z]Percentage of dry seed obtained from machine-shelled sample of dry pods [(weight of dry seed/weight of dry pods) x 100].
[y]Mean separation within columns by Duncan's multiple range test when $P \leq 0.05$.

Table 4. Fresh and dry seed characteristics of 'Charleston Greenpack', 'Coronet', 'Kiawah', and 'Pinkeye Purple Hull-BVR', Charleston, SC, 1966.

	Fresh peas			Dry peas		
Cultivar	Length[z] (mm)	Width[z] (mm)	Weight/ 100 peas[y] (g)	Length[y] (mm)	Width[y] (mm)	Weight/ 100 peas[y] (g)
Charleston Greenpack	10.6 c[x]	6.0 b	29.8 a	6.97 b	4.25 b	12.8 b
Coronet	10.8 bc	6.4 a	31.3 a	7.19 a	4.39 a	13.2 a
Kiawah	10.9 b	6.1 b	30.3 a	6.95 b	4.36 a	13.4 a
Pinkeye Purple Hull-BVR	11.2 a	6.0 b	31.0 a	7.14 ab	4.33 ab	13.5 a

[z]Pea samples harvested from replicated field test planted 12 June.
[y]Pea samples harvested from replicated field test planted 23 May.
[x]Mean separation within columns by Duncan's multiple range test when $P \leq 0.05$.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Agricultural Research Service U. S. Department of Agriculture	US-858	Charleston Greenpack

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*	5. TELEPHONE *(include area code)*	6. FAX *(include area code)*
1400 Independence Ave. SW Washington, DC 20250-0302 USA	(301) 504-6532	(301) 504-5060
	7. PVPO NUMBER	9700286

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country _____

10. Is the applicant the original breeder? If no, please answer the following: [X] YES [ ] NO

a. If original rights to variety were owned by individual(s):
Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country _____

[X] YES [ ] NO

b. If original rights to variety were owned by a company:
Is the original breeder(s) U.S. based company? If no, give name of country U. S. Department of Agriculture, ARS

11. Additional explantion on ownership *(If needed, use reverse for extra space):*

N/A

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.

The original breeder may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.